

## Your important health information

# Healthy eating for gestational diabetes

### What is gestational diabetes?

Gestational diabetes occurs in pregnancy due to changes in your hormone levels. Diabetes makes the level of glucose (a type of sugar) in the blood too high. A higher than normal level of glucose in the blood while you are pregnant can cause problems for the baby, such as growing too large, early birth, distress during birth and low blood glucose levels after birth.

### Why is your diet important in gestational diabetes?

Following a healthy eating plan will assist you to:

- provide adequate nutrition for you and your growing baby
- manage weight gain during your pregnancy
- manage your blood glucose levels.

### 1. Adequate nutrition for you and your baby

It is important to eat a variety of healthy foods to meet your and your baby's nutritional needs. The recommendations for women with gestational diabetes are similar to those for all pregnant women, with some additional guidelines.

#### General pregnancy recommendations

Food groups	Number of serves recommended in pregnancy each day	Examples of one serve
<b>Fruit</b>	2	1 medium apple, orange 1 cup diced/canned fruit 2 small apricots, plums or only occasionally: 1½ tablespoons sultanas ½ cup fruit juice
<b>Vegetables</b>	5	½ cup cooked or 1 cup raw/salad vegetables
<b>Wholegrain breads and cereals</b>	8½	1 slice bread ½ medium roll ¼ cup muesli ½ cup cooked porridge ⅔ cup cereal flakes ½ cup cooked rice, pasta, noodles, quinoa, barley
<b>Milk, yoghurt, cheese and alternatives</b>	2½	1 cup milk 2 slices cheese 200g yoghurt
<b>Lean meat or alternatives</b>	3½	65g cooked meat 80g cooked chicken 100g cooked fish 2 large eggs 170g tofu 30g nuts, seeds 1 cup cooked legumes/beans such as lentils and chickpeas

**Limit:** high mercury fish and caffeine.

**Avoid:** high risk listeria foods and alcohol

For more information refer to the fact sheet provided to you early in your pregnancy:

*MHVL Healthy eating in pregnancy.*

<https://health-services.mercyhealth.com.au/patient-information-sheets/>

## 2. Managing weight gain in pregnancy

Gaining too much weight can:

- make it harder to control your blood glucose levels
- increase your risk of having a bigger baby
- increase your blood pressure and make it harder to lose weight after you deliver.

Gaining too little weight can:

- increase your risk of having a smaller baby
- increase your risk of needing to deliver your baby early.

The amount of weight you should gain in your pregnancy depends on your pre-pregnancy weight and body mass index (BMI).

**You can work out your BMI using the steps below.**

Your pre-pregnancy weight \_\_\_\_\_kg      Your height \_\_\_\_\_m.

BMI = weight ÷ (height x height) \_\_\_\_\_ kg/m<sup>2</sup>.

For example, weight = 60kg    height = 1.6m (160cm)

**BMI = 60 ÷ (1.6x1.6) = 23.4kg/m<sup>2</sup>.**

### Recommended weight gain in pregnancy

If your pre-pregnancy BMI was:	Weight gain guide (single pregnancy)	Weight gain guide (twin pregnancy)
less than 18.5kg/m <sup>2</sup>	12.5 – 18kg	Speak to your dietitian/doctor
18.5 – 24.9kg/m <sup>2</sup>	11.5 – 16kg	17 – 25kg
25 – 29.9kg/m <sup>2</sup>	7 – 11.5kg	14 – 23kg
more than 29.9kg/m <sup>2</sup>	5 – 9kg	11 – 19kg

## 3. Managing blood glucose levels

The following recommendations are guidelines to help manage your blood glucose levels.

There are two key factors to consider when managing your diabetes with diet:

1. Type of carbohydrate.
2. Amount of carbohydrate.

## What are carbohydrates?

Carbohydrates are:

- starches and sugars found in foods
- broken down to glucose during digestion
- found in a variety of healthy foods and provide the body with fuel (energy), fibre, vitamins and minerals. It is important to include these foods in your diet.

Food group	High carbohydrate	Low carbohydrate
<b>Wholegrain breads and cereals</b>	Bread, pasta, rice, noodles, breakfast cereals, other grains such as semolina, couscous	
<b>Fruit</b>	All fruit, including dried fruit and juices	Avocado
<b>Milk, yoghurt, cheese and alternatives</b> <i>*choose mostly low fat</i>	Dairy, soy, oat milks Yoghurt	Cheese, including vegan options Unsweetened almond milk
<b>Vegetables</b>	Potato, sweet potato, pumpkin, corn, legumes and lentils	All other cooked and salad vegetables
<b>Lean meats or alternatives</b>	Lentils and legumes	Meat, chicken, fish, eggs, tofu, nuts and seeds

## Sugar

Carbohydrate foods that don't contain much nutrition include sugar (sucrose), soft drinks, cordials, lollies, cakes, biscuits and chocolate. It is best to limit these foods to avoid high blood glucose levels and for your general health.

Small amounts of sugar, for example one teaspoon in a hot drink, should not increase blood glucose levels much.

## Artificial sweeteners

Artificial sweeteners contain either no or little carbohydrate. All artificial sweeteners available in Australia have been thoroughly tested and approved by Food Standards Australia New Zealand (FSANZ). They are considered safe.

Sweeteners include Aspartame (Equal) (951), Sucralose (Splenda) (955) and Stevia (960) and are also found in artificially sweetened products such as diet soft drinks.

## What about fats?

While fat does not affect your blood glucose level in the same way, if eaten in large amounts fats can cause extra weight gain which can make it harder to control your blood glucose levels.

It is recommended that you limit your total amount of fat by reducing your intake of saturated fat. Foods containing saturated fats are fatty and processed meats, fried foods, potato chips, pies, pastries, butter, cream and processed foods.

It is recommended that you include healthier fats in your diet such as oily fish, vegetable oils and spreads, nuts and avocados.

## What type of carbohydrate foods should I eat?

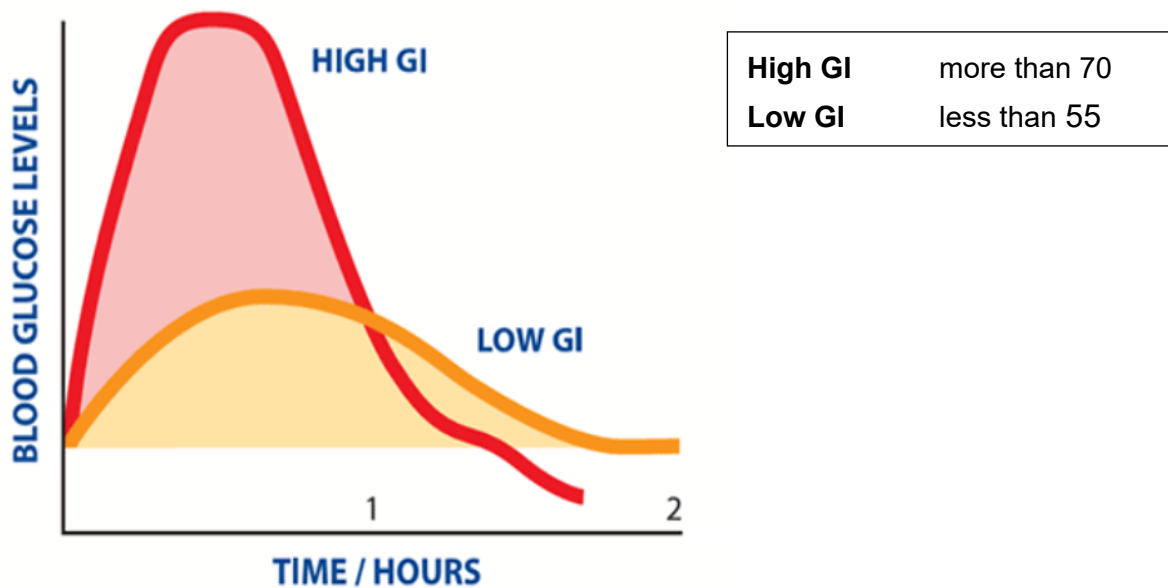
The Glycaemic Index (GI) is a measure of how quickly or slowly a carbohydrate food digests and increases blood glucose levels.

Foods are tested and ranked on a GI scale of 0 – 100.

A lower GI carbohydrate food will affect your blood glucose level more slowly.

A higher GI carbohydrate food will affect your blood glucose level more quickly.

The graph below shows how a high and low GI food affects your blood sugar level over a two hour period.



Lower GI carbohydrates are the preferred choice for managing your diabetes and can help to avoid the need to use insulin.

Use the table on the next page to find low GI food options. If you are frequently eating foods in the higher GI column, you can make a swap to an option in the low GI column.

## Carbohydrate foods

Food category	✓ Lower GI (less than 55)	* Higher GI (more than 70)
<b>Bread</b>	<ul style="list-style-type: none"> <li>✓ Multigrain, sourdough, sourdough rye</li> <li>✓ Pumpnickel</li> <li>✓ Wholemeal pita, chapatti</li> <li>✓ Fruit and grain</li> <li>✓ Low GI white</li> <li>✓ Corn tortilla wraps</li> </ul>	<ul style="list-style-type: none"> <li>* White, wholemeal</li> <li>* Bagels and Turkish</li> <li>* Crumpets</li> <li>* Dark and light rye</li> <li>* White Lebanese bread</li> <li>* Naan</li> </ul>
<b>Breakfast cereals</b>	<ul style="list-style-type: none"> <li>✓ Untoasted muesli</li> <li>✓ Rolled oats, steel cut oats (porridge)</li> <li>✓ All-Bran, Guardian, Special K</li> <li>✓ Vogel's – Cluster Crunch</li> <li>✓ Hi-Bran Weet-Bix</li> <li>✓ Carman's Deluxe gluten free muesli</li> <li>✓ Up &amp; Go</li> </ul>	<ul style="list-style-type: none"> <li>* Coco-Pops, Rice Bubbles</li> <li>* Instant oats (porridge)</li> <li>* Rice porridge</li> <li>* Cornflakes</li> <li>* Puffed wheat</li> <li>* Froot Loops</li> <li>* Honey Smacks</li> </ul>
<b>Rice</b>	<ul style="list-style-type: none"> <li>✓ Basmati (brown and white)</li> <li>✓ Doongara</li> <li>✓ Mahatma long grain</li> <li>✓ SunRice Low GI white and brown</li> <li>✓ Wild, red or black rice</li> </ul>	<ul style="list-style-type: none"> <li>* Jasmine</li> <li>* White</li> <li>* Brown</li> </ul>
<b>Pasta and noodles</b>	<ul style="list-style-type: none"> <li>✓ Wheat pasta (white and wholemeal)</li> <li>✓ All noodles</li> </ul>	<ul style="list-style-type: none"> <li>* Potato gnocchi</li> <li>* Corn and rice pasta</li> </ul>
<b>Grains</b>	<ul style="list-style-type: none"> <li>✓ Barley, Buckwheat</li> <li>✓ Bulgur, Cracked wheat</li> <li>✓ Freekah</li> <li>✓ Quinoa, semolina, pearl couscous</li> </ul>	<ul style="list-style-type: none"> <li>* Couscous</li> <li>* Polenta</li> <li>* Millet</li> </ul>
<b>Legumes and lentils</b>	<ul style="list-style-type: none"> <li>✓ All dried and canned, such as kidney beans, chickpeas, brown lentils and baked beans</li> </ul>	
<b>Starchy vegetables</b>	<ul style="list-style-type: none"> <li>✓ Nicola potato</li> <li>✓ Carisma and baby Carisma potato</li> <li>✓ Sweet potato (orange)</li> <li>✓ Cassava, taro, yam</li> <li>✓ Butternut pumpkin</li> <li>✓ Corn</li> </ul>	<ul style="list-style-type: none"> <li>* White potato</li> <li>* Sweet potato (purple)</li> <li>* Pumpkin (varieties other than butternut)</li> </ul>
<b>Fruit</b>	<ul style="list-style-type: none"> <li>✓ Apples, apricot, banana, berries</li> <li>✓ Cherries, grapefruit, grapes</li> <li>✓ Orange, kiwifruit, mandarin, mango</li> <li>✓ Nectarines, peaches</li> <li>✓ Pear, plums</li> <li>✓ Passionfruit, pomegranate, guava</li> </ul>	<ul style="list-style-type: none"> <li>* Rockmelon, watermelon</li> <li>* Lychee (canned)</li> </ul> <p>Note: although fruit juice and dried fruit have a lower GI, consume only small amounts. Fresh fruit is preferable.</p>
<b>Milk and yoghurt</b>	<ul style="list-style-type: none"> <li>✓ Dairy milk and yoghurt</li> <li>✓ Soy milk and yoghurt</li> </ul>	<ul style="list-style-type: none"> <li>* Sweetened condensed milk</li> <li>* Oat and rice milk</li> </ul>
<b>Dry biscuits</b>	<ul style="list-style-type: none"> <li>✓ Vita-Weat 9 grain</li> <li>✓ Ryvita multigrain</li> </ul>	<ul style="list-style-type: none"> <li>* Rice crackers and cakes</li> <li>* Puffed corn thins/crispbreads</li> <li>* Water crackers, Sao/pretzels</li> </ul>
<b>Extras</b>	<ul style="list-style-type: none"> <li>✓ Arnott's Snack Right Fruit slice/pillow</li> <li>✓ Carman's Super Berry muesli bar</li> <li>✓ Low fat ice cream and custard</li> <li>✓ Milo/Ovaltine</li> </ul>	<ul style="list-style-type: none"> <li>* Plain sweet biscuits</li> <li>* Cakes</li> </ul>

## What amount of carbohydrate should I eat?

You should eat carbohydrates at each meal and snack. The amount of carbohydrates recommended below is needed to meet your daily requirements in pregnancy.

Not all foods listed below are low GI; where possible eat low GI carbohydrates.

**Always aim to eat three portions of carbohydrate (45g) at each main meal and one to two portions (15–30g) for snacks.**

**This is a total of approximately 180 – 225g carbohydrate per day.**

Using a metric measuring cup (250ml) to serve your carbohydrate foods can help you count your carbohydrate portions correctly.

For example 1 cup cooked rice/pasta = 3 carbohydrate portions.

Carbohydrate food	1 portion (approximately 15g carbohydrate)	
<b>Breads</b>	1 slice bread/fruit bread 1 small chapatti ½ English muffin 2 tablespoons bread crumbs 1 small dinner roll	½ bread roll 1 mountain bread ⅔ small naan bread 1 round crumpet ⅓ large pita bread
<b>Cereals</b>	½ cup cereal 1½ Weet-Bix	¼ cup muesli/raw oats ½ cup cooked oats
<b>Pasta and noodles</b>	½ cup cooked wholemeal pasta ½ cup cooked noodles	⅓ cup cooked white pasta 1 small lasagne sheet
<b>Rice and grains</b>	⅓ cup cooked rice/couscous/bulgur/quinoa	
<b>Legumes</b>	½ cup canned baked beans ½ cup cooked chickpeas/kidney beans/canned 3 beans mix	¾ cup cooked lentils
<b>Starchy vegetables</b>	1 small potato ½ cup corn kernels ½ cup mashed potato	½ cup boiled sweet potato 1 cup boiled pumpkin 1 small corn cob
<b>Fruit</b>	½ large banana 1 medium apple, orange, pear, peach ½ cup grapes 3 med apricots 2 small mandarins/kiwi ½ mango 1½ cups melon/pineapple 25 small strawberries 8 extra large strawberries 2 medium nectarines/plums	6 dried apricots/prunes 8 passionfruit 1 tablespoon sultanas 1 whole pomegranate/grapefruit 2 guava 4 dates ½ cup fruit juice ½ cup tinned fruit 1 cup berries/cherries 1 small banana 250ml coconut water
<b>Milk</b>	250ml milk (all types, excluding unsweetened almond milk)	
<b>Yoghurt</b>	200g plain, low fat yoghurt 1 scoop frozen yoghurt	100g fruit yoghurt (always check yoghurt labels)
<b>Other dairy</b>	2 small scoops low fat ice cream	⅓ cup low fat custard
<b>Biscuits</b>	6 small Salada/Savoy 2 Ryvita 4 Vita-Weat 3 Sao	3 cups air popped popcorn 10 rice crackers 1 small muesli bar 1 Snack Right fruit pillow 2 Snack Right fruit slice
<b>Flour</b>	2 tablespoons white/wholemeal	

## What if I still feel hungry?

If you still feel hungry add foods that are low in carbohydrate to your meals and snacks. Look at the table on page 3 for the list of low carbohydrate foods. Count these as 'zero portions' of carbohydrate. You can also check the table on page 1 for serve recommendations for each food group.

## What if my blood sugars are still high?

In some instances you may be eating the right amount and type of carbohydrate but will still have high blood glucose levels.

If this occurs it is important not to avoid carbohydrates as severe dietary restriction may result in an increased risk of pregnancy complications.

Some women need a little extra help to manage blood glucose levels and may require insulin.

## Sample meal plan

### Breakfast

- ½ cup untoasted muesli or 1 cup Guardian/All Bran + 250ml low fat milk **or**
- 2 slices grain/sourdough toast spread with avocado or poly/monounsaturated margarine + tub of low fat yoghurt **plus**
- Tea/coffee – with small amount low fat milk, no sugar (ideally). Equal ok.

### Morning tea (snack)

- 1 serve fruit + 4 Vita-Weat with low fat cheese

### Lunch

- 2 slices of bread **or** 1 medium bread roll **or** ½ cup cooked basmati rice **plus**
- plenty of salad or non-starchy vegetables (½ plate) **plus**
- lean meat or tuna or salmon or skinless chicken or egg **plus**
- 1 serve fruit

### Afternoon tea (snack)

- 1 slice wholegrain bread + ½ cup baked beans

### Dinner

- 1 cup cooked basmati rice **or** 1-1½ cups cooked pasta **or** 2 medium potatoes **plus**
- plenty of salad or non-starchy vegetables (½ plate) **plus**
- lean meat or skinless chicken or tofu

### Supper (snack)

- 250ml low fat milk + 30g unsalted nuts

## Vegetarian sample meal plan

### Breakfast

- ½ cup untoasted muesli or 1 cup Guardian/All Bran + 250ml low fat milk/soy milk **or**
- 2 slices grain/sourdough toast spread with avocado or poly/monounsaturated margarine + tub of low fat yoghurt **plus**
- 1 egg **or** 15g nuts
- Tea/coffee – with small amount low fat milk, no sugar (ideally). Equal ok.

### Morning tea (snack)

- 1 serve fruit + 4 Vita-Weat with low fat cheese

### Lunch

- 2 slices of bread **or** 1 medium bread roll **or** ⅔ cup cooked basmati rice **plus**
- plenty of salad or non-starchy vegetables (½ plate) **plus**
- egg **or** 85g tofu **or** 15g nuts/seeds **plus**
- 1 serve fruit

### Afternoon tea (snack)

- 1 slice wholegrain bread + ½ cup baked beans

### Dinner

- ⅔ cup cooked basmati rice **or** ⅔ - 1 cup cooked pasta **or** 2 small potatoes **or** 2 small chapatti **plus**
- ¾ cup cooked lentils **or** ½ cup cooked chickpeas/kidney beans **plus**
- plenty of salad or non-starchy vegetables (½ plate)

### Supper (snack)

250ml low fat milk/soy milk + 30g unsalted nuts

### Test your blood glucose levels:

- Before you eat/drink anything in the morning. Water is ok.
- Two hours after each main meal; breakfast, lunch and dinner. Do not eat/drink anything other than water in these two hours.
- You do not need to test after your snacks.

### What can I drink?

- Choose mainly water, plain mineral and soda water-add fresh lemon or lime for flavour.
- Low fat milk provides a good source of calcium and protein.
  - Remember that milk contains carbohydrate and needs to be included in your daily carbohydrate serves.
- Tea, coffee, diet soft drink and diet cordials can be consumed in moderation.



## After your pregnancy

### Am I at risk of developing type 2 diabetes?

Your blood glucose levels will usually return to normal after the birth of your baby. Gestational diabetes is a risk factor for developing Type 2 diabetes later in life. Eating healthy foods, controlling body weight and regular exercise can reduce this risk. For more information on how to reduce your risk, discuss with your general practitioner or health professional.

### Breastfeeding

Exclusive breastfeeding is recommended during the first six months of life and longer where possible. It provides the best start for your baby and can decrease your baby's risk of developing obesity, diabetes and heart disease. Breastfeeding can also help you return to your pre-pregnancy weight and may also reduce your risk of developing type 2 diabetes.

It is recommended you continue to take a supplement containing 150 micrograms of iodine each day until you stop breastfeeding. It is also recommended you give your baby a Vitamin D supplement of 400 units each day for at least the first six months while you are breastfeeding.

If you require support with breastfeeding you can contact lactation consultants at:

**Mercy Hospital for Women**

Phone: 03 8458 4677

**Werribee Mercy Hospital**

Phone: 03 8754 3407

### Other breastfeeding support services:

- The Australian Breastfeeding Association 24 hour helpline, Phone: 1800 686 268
- Maternal and Child Health Helpline, Phone: 13 22 29
- Private Lactation Consultants, <https://www.lcanz.org/>

### Useful websites

<b>The Baker Heart and Diabetes Institute</b> <a href="http://www.baker.edu.au">www.baker.edu.au</a>	<b>Dietitians Association of Australia</b> <a href="https://dietitiansaustralia.org.au/">https://dietitiansaustralia.org.au/</a>
<b>Glycemic Index Database,</b> The University of Sydney <a href="http://www.glycemicindex.com">www.glycemicindex.com</a>	<b>Glycemic Index Foundation</b> <a href="http://www.gisymbol.com">www.gisymbol.com</a>
<b>Gestational Diabetes Recipes</b> <a href="http://gestationaldiabetesrecipes.com">http://gestationaldiabetesrecipes.com</a>	<b>Diabetes Australia</b> <a href="https://www.diabetesaustralia.com.au/">https://www.diabetesaustralia.com.au/</a> <i>Note: recipes are not specific to pregnancy</i>
<b>Diabetes Victoria</b> <a href="http://www.diabetesvic.org.au">www.diabetesvic.org.au</a>	

#### Further Information.

If you have any questions regarding this information, please contact:

#### Dietitian

**Mercy Hospital for Women**

Phone: 03 8458 4165

**Werribee Mercy Hospital**

Phone: 03 8754 3150

#### Acknowledgements.

Produced by: MHW Nutrition and Dietetic Department acknowledging Baker IDI Heart & Diabetes Institute.

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This document provides general information only and is not intended to replace advice about your health from a qualified practitioner. If you are concerned about your health, you should seek advice from a qualified practitioner.